















## WEST DES MOINES RESIDENTIAL ELECTRICAL SERVICE UPGRADE & PANEL CHANGE-OUT REQUIREMENTS

When it is desired to install higher amperage electrical service to any residential property, the following items will also be required, with the intent of promoting additional fire and life/safety within the community. Installations will comply with the State of Iowa adopted Electrical Code and Amendments.

1.  **Ground fault circuit interrupters (GFCI)** shall be installed in required locations in all kitchens & bathrooms. Existing unprotected receptacles in locations currently required to be GFCI protected shall be updated, these locations may include basements, exteriors, garages, out buildings, etc.
2.  **Smoke Detectors** shall be installed in all required locations per code. Hard wired and interconnected detectors are encouraged but battery powered smoke detectors will be deemed adequate. The State of Iowa requires all new smoke detectors installed or replaced must be of dual sensor type.
3.  **Carbon Monoxide Alarms** shall be provided per the NEC and IRC (International Residential Code). In existing dwellings that have attached garages or in dwellings within which fuel-fired appliances exist. An alarm shall be installed outside of each separate sleeping area in the immediate vicinity of the bedrooms.
4.  **Grounding:** update the service grounding system including ground rods, water pipe bonding, jumpers, etc. per current code.
5.  **Gas Bonding:** properly bond CSST gas piping per code and manufacturer's requirements.
6.  **Any hazardous or substandard conditions** shall be rectified.
7.  Although **receptacle spacing** as per new construction will not be strictly enforced, habitable rooms should have an adequate number of receptacles. Typically, at least one per wall and/or kitchen counter.
8.  **Tamper-Resistant receptacles** shall be provided where replacements are made as required by code.
9.  **Ungrounded Circuits:** existing circuits which do not include an equipment grounding conductor must wired into non-grounding-type (two prong) receptacle(s) or as allowed in the code [NEC 406.4(D)(2)].
10.  **Disconnect:** the City's policy is to provide disconnection and over current protection within 10 (ten) feet of where the service entrance conductors enter the building.
11.  **Arc-Fault Protection:** existing circuits and additions to existing circuits do not require updating to AFCI protection. Any **new** circuits added in areas of the home where currently required shall be protected.
12.  **Panel Change Out only** (no increase in service amperage) *Items 1 thru 6 MUST be addressed.* (Additional updating is strongly encouraged.)

The City is not responsible for the service and metering ahead of the disconnecting means.  
**Mid-American Energy** should be contacted concerning this portion of an upgrade.